

**Notice of Allowability**

Application No.

09/905,556

Examiner

James A Thompson

Applicant(s)

WANG, SHEN-GE

Art Unit

2624

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 13 July 2001.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☒ The drawings filed on 13 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 9 March 2005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Jennette Walder on 09 March 2005.

The application has been amended as follows:

- a. In claim 4, lines 1-2, modify "non-orthogonal includes cell shapes" to "non-orthogonal halftone cells include cell shapes".
- b. In claim 11, lines 1-2, modify "non-orthogonal includes cell shapes" to "non-orthogonal halftone cells include cell shapes".
- c. In claim 16, lines 1-2, modify "non-orthogonal includes cell shapes" to "non-orthogonal halftone cells include cell shapes".

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**Allowable Subject Matter**

2. The following is an examiner's statement of reasons for allowance:

Using halftone cells that are non-orthogonal; further limiting the equations governing the frequency vectors of each of the colors of the non-orthogonal halftone cells with the set of vector equations listed in independent claims 1, 8 and 15; and specifically defining the minimum acceptable two-color Moiré frequency with the inequality specifically listed in claims 1, 8 and 15 has not been found by Examiner in the prior art. Furthermore, Examiner has not found prior art that would render each and every limitation of independent claims 1, 8 and 15 obvious to one of ordinary skill in the art.

The closest prior art of record that was found by Examiner is listed below:

- Thomas M. Holladay, US Patent 4,185,304, 22 January 1980. In this patent, Holladay discloses color halftoning at non-orthogonal angles. However, the halftone frequency vectors do not have the specific relation defined by the frequency vector equations, or an equivalent, recited in claims 1, 8 and 15 of the present invention. Additionally, the minimum acceptable two-color Moiré frequency is not determined with the inequality specifically recited in claims 1, 8 and 15. Further, the halftone cells themselves are orthogonal.
- Richard L. Rylander, US Patent 5,323,245, 21 June 1994. In this patent, Rylander discloses non-orthogonal halftone cells and color halftoning at non-

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orthogonal angles. However, the halftone frequency vectors do not have the specific relation defined by the frequency vector equations, or an equivalent, recited in claims 1, 8 and 15 of the present invention. Additionally, the minimum acceptable two-color Moiré frequency is not determined with the inequality specifically recited in claims 1, 8 and 15.

- Mitsuru Sawano, US Patent 5,883,725, 16 March 1999. In this patent, Sawano teaches non-orthogonal halftone screens and the manipulation of the individual halftone dots, and thus the halftone cell, in order to reduce Moiré and other artifacts. However, the halftone frequency vectors do not have the specific relation defined by the frequency vector equations, or an equivalent, recited in claims 1, 8 and 15 of the present invention. Additionally, the minimum acceptable two-color Moiré frequency is not determined with the inequality specifically recited in claims 1, 8 and 15. Further, the halftone cells themselves are orthogonal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson  
Examiner  
Art Unit 2624

JAT  
09 March 2005



THOMAS D.  
~~LEE~~  
PRIMARY EXAMINER